Module 5 Assignment

Use the tobacco data frame from the summarytools package, recode BMI into three equal sized groups (low, med, high).

* 1. Paste a contingency table of Diseased x BMI.3
  2. What is the probability that a person is Diseased?
  3. What is the probability that a person is Diseased or High BMI?
  4. What is the probability that a person is a Diseased if a person is High BMI?
  5. What is the probability that a person is Diseased and is Low BMI?
  6. Use the Bayes theorem function for an event in R to answer the following question:

Given the following statistics, what is a patient’s probability of having liver disease if they are an alcoholic?

* 10% of patients have liver disease
* Five percent of patients are alcoholics
* Among those patients diagnosed with liver disease, 7% are alcoholics
  1. Use the Bayes theorem function for a medical test in R to answer the following question?

Given the following statistics, what is the probability that a woman has cancer if she has a positive mammogram result?

* 1.5 percent of women over 50 have breast cancer
* 89 percent of women who have breast cancer test positive on mammograms
* Eight percent of women will have false positives